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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/500,826 | 07/07/2004 | David Attwater | 36-1829 | 8492 |

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NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

| EXAMINER | |
|---|---|
| SAINT CYR, LEONARD | |
| ART UNIT | PAPER NUMBER |
| 2626 | |
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| 09/01/2010 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/500,826 | ATTWATER ET AL. | |
| | Examiner | Art Unit | |
| | LEONARD SAINT CYR | 2626 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *06/01/10*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-5, 7 - 11,13-27, 29 -33 and 35-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5, 7 - 11,13-27, 29 -33 and 35-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 06/01/10 have been fully considered but they are not persuasive.

Applicant argues that neither Coffman et al., nor Gergic et al., teach storing input and output data indicative of one or more properties of the input and output ports and/or the input responses and output prompts communicated therethrough (Amendment, pages 18 – 24).

The examiner disagrees, since Coffman et al., disclose "The DMAF comprises a mechanism for conveying application properties to the CVM through the DMA…Such properties include the resources the application needs such as engine resources **(speech recognition, NLU, etc.) data files (such as NLU and grammar objects),** the algorithm string for input processing (i.e., the set and order of engines needed for processing the use input). For example, it the user input comprises spoken utterances (voice command), the algorithm string may comprise: **front end+speech recognition+NLU. If the user input is a typed command, the algorithm string may be just NLU, etc**." (speech recognition, and NLU are considered as stored input and output data types; paragraph 60).

Applicant argues that neither Coffman et al., nor Gergic et al., teach that said input and output type data is updated when any of said one or more properties change;

and/or output prompts are sent and/or input responses are received (Amendment, pages 18 – 24).

The examiner disagrees, since Coffman et al., disclose "Another mechanism is provided to notify the DMA (and possibly other CVM components) when one or more of the application properties change. For example, a Task manager (which is a CVM component) should be notified of changes to the application properties. As described below, the Task manager is a CVM component that communicates with the **conversational engines and, thus, needs to know the algorithm string of the user input and when such string is modified so that the Task manager can instantiate and use the proper engines for processing such user input**" (speech recognition, and NLU are considered as the updated input and output type data; paragraphs 60, and 61).

2. Applicant's arguments with respect to claims 1 –5, 7 - 11, 13 – 27, 29 - 33, 35 – 46 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that neither Coffman et al., nor Gergic et al., teach providing an interactive dialogue apparatus for selecting the most appropriate mode for input from or output to the user, depending on the assessment of the user's preferences (Amendment, pages 18 – 24).

### *Claim Rejections - 35 USC § 101*

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 45, and 46 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. **Claims 45, and 46** are directed to a computer readable medium storing processor executable instructions that is not limited to a non transitory, and thus, statutory medium. The scope of "computer-readable medium" since not defined in the specification may include signal-based mediums such as "signals used to propagate instructions", "carrier waves/pulses", etc . A signal does not fall within one of the four statutory categories of invention *(i.e., process, machine, manufacture, or composition of matter)* because it is an ephemeral, transient signal and thus is non-statutory. Since the scope of "computer-readable medium" may include these non-statutory instances, claims 45, and 46 are directed to non-statutory subject matter.

### *Claim Rejections - 35 USC § 103*

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1 –5, 7 - 11, 13 – 27, 29 - 33, 35 – 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coffman et al., (US PAP 2003/0005174) in view of Lucassen et al., (US PAP 2003/0023953).

As per claims 1, and 23, Coffman et al., teach an interactive dialogue that comprises:

at least one input port; two or more output ports ("converts the abstract output event into one or more modalities for presentation to the user"; paragraph 22, lines 6 – 8; paragraph 60, lines 9 – 12);

means for processing input responses to determine the semantic meaning thereof (paragraph 94, line 5);

and control means for determining a suitable output prompt to be output from at least one of said output ports in response to a received input response ("sending output events to the appropriate engine"; paragraph 102, lines 4 – 7; paragraph 153);

wherein said output ports are respectively arranged to output prompts of different types ("pen recognition, speech recognition, TTS"; paragraph 153);

a first store storing input and output type data indicative of one or more properties of the input and output ports and/or the input responses and output prompts communicated there through ("**The DMA will also manage the output of these methods by passing it to the appropriate components for processing, using an algorithm string, similar to the algorithm string used for input handling (as described below), to control the response processing and generation by the appropriate engines… the algorithm string may comprise: front end+speech recognition+NLU. If the user input is a typed command, the algorithm string may be just NLU, etc**"; paragraphs 53, 60, and 61);

wherein said input and output type data is updated when: i) any of said one or more properties change; and/or ii) output prompts are sent; and/or iii) input responses are received ("**The DMA will also manage the output of these methods by passing**

**it to the appropriate components for processing, using an algorithm string, similar to the algorithm string used for input handling (as described below), to control the response processing and generation by the appropriate engines…**if the user input comprises spoken utterances (voice command), **the algorithm string may comprise: front end+speech recognition+NLU. If the user input is a typed command, the algorithm string may be just NLU, etc**"; paragraphs 53, 60, and 61).

However, Coffman et al., do not specifically teach wherein one of said properties is the utilization made by a user of each input and output port; and means for establishing from said properties for each of said input and output ports a user preference value.

Lucassen et al., teach that key aspects of this form of interaction include the ability of the system to use the best possible combination of interface modalities based on the user's current preference needs and abilities as well as the application requirements and device capabilities. At the same time, the system is characterized by the ability to dynamically update its choice of modalities based on what the user chooses to do. Thus, upon failure of the user to respond to a spoken prompt, the system might choose to revert to a visual interface--an implicit assumption that the user is in environment where speech interaction is inappropriate--equivalently, a spoken request from the user might cause the system to update its behavior to switch from visual to spoken interaction (paragraph 41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dynamically update modalities base on user's current

preference as taught by Lucassen et al., in Coffman et al., because that would make the system to update its behavior to switch from visual to spoken interaction (paragraph 41, last two lines)

As per claims 2, and 24, Coffman et al., teach an interactive dialogue that comprises:

two or more input ports; at least one output port ("voice command, and typed command"; paragraph 60; paragraph 22);

means for processing input responses received at one or more of said input ports to determine the semantic meaning thereof(paragraph 94, line 5);

and control means for determining a suitable output prompt to be output from at least one of said output ports in response to a received input response ("sending output events to the appropriate engine"; paragraph 102, lines 4 – 7; paragraph 153);

wherein said input ports are respectively arranged to receive input responses of different types ("voice command, and typed command"; paragraph 60); the apparatus and method further comprising

a first store storing input and output type data indicative of one or more properties of the input and output ports and/or the input responses and output prompts communicated there through ("**The DMA will also manage the output of these methods by passing it to the appropriate components for processing, using an algorithm string, similar to the algorithm string used for input handling (as described below), to control the response processing and generation by the**

**appropriate engines… the algorithm string may comprise: front end+speech recognition+NLU. If the user input is a typed command, the algorithm string may be just NLU, etc**"; paragraphs 53, and 60);

wherein said input and output type data is updated when: i) any of said one or more properties change; and/or ii) output prompts are sent; and/or iii) input responses are received ("**The DMA will also manage the output of these methods by passing it to the appropriate components for processing, using an algorithm string, similar to the algorithm string used for input handling (as described below), to control the response processing and generation by the appropriate engines…**if the user input comprises spoken utterances (voice command), **the algorithm string may comprise: front end+speech recognition+NLU. If the user input is a typed command, the algorithm string may be just NLU, etc**"; paragraphs 53, and 60).

However, Coffman et al., do not specifically teach wherein one of said properties is the utilization made by a user of each input and output port; and means for establishing from said properties for each of said input and output ports a user preference value.

Lucassen et al., teach that key aspects of this form of interaction include the ability of the system to use the best possible combination of interface modalities based on the user's current preference needs and abilities as well as the application requirements and device capabilities. At the same time, the system is characterized by the ability to dynamically update its choice of modalities based on what the user chooses to do. Thus, upon failure of the user to respond to a spoken prompt, the

system might choose to revert to a visual interface--an implicit assumption that the user is in environment where speech interaction is inappropriate--equivalently, a spoken request from the user might cause the system to update its behavior to switch from visual to spoken interaction (paragraph 41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dynamically update modalities base on user's current preference as taught by Lucassen et al., in Coffman et al., because that would make the system to update its behavior to switch from visual to spoken interaction (paragraph 41, last two lines)

As per claims 3 and 25, Coffman et al., in view of Lucassen et al., further disclose at least one additional output port, wherein said control means is further arranged to determine a suitable output prompt to be output from at least one of said output ports in response to a received input response ("sending output events to the appropriate engine"); and wherein said output ports are respectively arranged to output prompts of different types (Coffman et al., "pen recognition, speech recognition, TTS"; paragraph 102, lines 4 – 7; paragraph 153).

As per claims 4 and 26, Coffman et al., in view of Lucassen et al., further disclose that for any particular received input prompt, output prompts which are semantically synonymous ("semantic meaning") or which mutually contribute towards a single semantic message independent of type are output from two or more of the output

ports (Coffman et al., "converts the abstract output event into one or more modalities for presentation to the user"; paragraph 94, line 5; paragraph 22, lines 6 – 8).

As per claims 5 and 27, Coffman et al., in view of Lucassen et al., further disclose that each input or output port is adapted to connect to one or more input or output devices via respective device gateways (Coffman et al., "input and output devices"; paragraph 172; paragraph 101, line 2).

As per claims 7, and 29, Coffman et al., in view of Lucassen et al., further disclose that one of said properties is the connection of appropriate input or output devices to each of said input or output ports (Coffman et al., "properties includes the resources the application needs for processing the user input"; paragraph 60).

As per claims 8, and 30, Coffman et al., in view of Lucassen et al., further disclose that one of said properties is user preference value for each of said input and output ports ("key aspects of this form of interaction include the ability of the system to use the best possible combination of interface modalities based on the user's current preference needs and abilities as well as the application requirements and device capabilities; paragraph 41)

As per claims 9, and 31, Coffman et al., in view of Lucassen et al., further disclose that one of said properties is device property data of input or output devices

connected to said input or output ports (Coffman et al.,"voice command and typed command"; paragraph 60, lines 9 – 12).

As per claims 10 and 32, Coffman et al., in view of Lucassen et al., further disclose that one of said properties is implementation data indicative of: whether an output prompt has been implemented in each output prompt type and/or input parse rules for each input response type (Coffman et al., "NLU parse tree…and data associated with a NLU process"; paragraph 103, lines 1 – 4; paragraph 122).

As per claims 11 and 33, Coffman et al., in view of Lucassen et al., further disclose that one of said properties is type-supported data indicative of whether the apparatus is capable of receiving and/or outputting input responses and/or output prompts of each type (Coffman et al., "converts the abstract output event into one or more modalities for presentation to the user"; paragraph 22).

As per claims 13, and 35, Coffman et al., in view of Lucassen et al., further disclose that the update of said data comprises instantiating new data structures ("hierarchical tree structure") to store the values of said changed properties, and storing said previous data to give a historical record of said data (Coffman et al.,"transaction history"; paragraph 13, line 7; paragraph 64, lines 1 – 4).

As per claims 14, and 36, Coffman et al., in view of Lucassen et al., further disclose that said input and output type data further includes timing data indicative of the timings of changes in said one or more properties (Coffman et al., "time stamped"; paragraph 163).

As per claims 15, and 37, Coffman et al., in view of Lucassen et al., further disclose that said input and output type data comprises a single data entry for each input and output type, the value taken by a particular data entry being dependent on previous values of any one or more of that or other data entries (Coffman et al., "top scoring query result"; paragraphs 66, and 122).

As per claims 16, and 38, Coffman et al., in view of Lucassen et al., further disclose a second store data defining a dialogue to be held with a user, and dialogue progression conditions which must be met to allow a user to progress through the dialogue, at least some of said conditions involving the stored input and output type data (Coffman et al., "for any given user input, arbitration mechanism will determine the target DMA instance managing the associated sub-dialog"; paragraphs 48, 49, and 59).

As per claims 17, and 39, Coffman et al., in view of Lucassen et al., further disclose a second store storing data defining a dialogue model comprising an initial state, a plurality of subsequent states, possible transitions between said states, and for each transition at least one associated condition to be satisfied before that transition is

deemed allowable, at least some of said conditions involving the stored input and output type data (Coffman et al.,"hierarchical tree structure that contains root, parent and children nodes"; paragraph 13; paragraph 49).

As per claims 18, and 40, Coffman et al., in view of Lucassen et al., further disclose that the second store comprises a plurality of distributed storage media (Coffman et al., "multimedia streams"; paragraph 104, line 15)

As per claims 19, and 41, Coffman et al., in view of Lucassen et al., further disclose port control means for controlling the connections of input or output devices to said input or output ports in response to the stored input and output type data (Coffman et al., "a mechanism for sending output events to the appropriate engine"; paragraph 153, lines 4 – 6).

As per claims 20, and 42, Coffman et al., in view of Lucassen et al., further disclose means for generating output prompts ("compose prompts"), said means being operable to generate output prompts adapted for particular output ports in dependence on the stored input and output type data (Coffman et al., "a mechanism for sending output events to the appropriate engine"; paragraph 102, lines 4 – 7; paragraph 153, lines 4 – 6).

As per claims 21, and 43, Coffman et al., in view of Lucassen et al., further disclose that first store comprises a plurality of distributed storage media each logically interconnected (Coffman et al., "multimedia streams"; paragraph 104, line 15).

As per claims 22, and 44, Coffman et al., in view of Lucassen et al., further disclose that the different types of output prompts or input responses comprise audio prompts or responses, or visual prompts or responses, or motor prompts or responses, in any combination thereof (Coffman et al., "text-to-display or prompt is provided"; paragraph 166, lines 17, and 18).

As per claim 45, and 46, Coffman et al., in view of Lucassen et al., further disclose that a computer program or suite of programs so arranged such that when loaded into a computer it or they renders the computer an apparatus according to claims 1, and 23 (Coffman et al., paragraph 180).

## ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD SAINT CYR whose telephone number is (571) 272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone

number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or (571) 272-1000.

LS
/Leonard Saint-Cyr/
Examiner, Art Unit 2626